



# "CAPE FEAR SKIES"

Newsletter of the Cape Fear Astronomical Society

Wilmington, NC and Surrounding Areas

April 2019

## Vice President's Report

We have a busy outreach period for April, with 4 events:

Cabin Lake Park on the 6th  
SWSP @ CBSP on the 12th.  
SWSP @ OCEEC on the 13th.  
Wizard School at CFM on the 25th.

Please see the March Cape Fear Skies for details on Cabin Lake, and articles in this edition for info on the SWSPs and Wizard School.

The SWSP event on the 12th will replace our usual CBSP public session for April, and normal public sessions at CBSP will resume in May.

Also in May we'll have a Full Moon at the Blockade Runner in Wrightsville Beach. See the next issue of Cape Fear Skies for details.

Jon

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### Next CFAS Monthly Meeting

Sun, April 14, 7:00pm – 9:30pm  
212 DeLoach Hall, UNCW Campus

### GAstronomy Meeting

Sun, April 14, 5:00pm – 6:45pm  
(Dinner, prior to the Monthly Meeting)  
McAlisters Deli, 740 South College Road

### Other April CFAS Events

Sat, April 6, 7:00pm – 9:20pm  
Observing-Cabin Lake Park  
220 Cabin Lake Rd, Pink Hill, NC 28572, USA (map)

Fri, April 12, 5:00pm – 8:50pm  
Statewide Star Party  
1010 State Park Road, Carolina Beach, NC 28428

Sat, April 13, 5:00pm – 8:20pm  
State Wide Star Party Onslow Museum Public Viewing  
Onslow County Environmental Education Center 1330  
NC-210 Sneads Ferry, NC 28460

Thu., April 25th, from 6 pm to 9 pm  
Wizard School at the Cape Fear Museum  
814 Market St, Wilmington, NC 28401

Sky Events and Public Events also listed on next page.

## "The Moon and Beyond" at Two State Wide Star Party (SWSP) Events in April

April 12 at Carolina Beach      April 13 at Sneads Ferry

The theme for this year's State Wide Star Party is "The Moon and Beyond". CFAS will be helping the public with lunar observing and beyond at two locations: 1) our traditional location at Carolina Beach State Park (CBSP) on Friday, April 12<sup>th</sup> and 2) at the Onslow County Environmental Education Center in Sneads Ferry.

For CBSP, we'll be at the end of Nature Trail again: not the best horizons, but well shielded from local lights. Jon Stewart-Taylor will set up the 1000-yard solar system model at least to Saturn. Once it's dark enough, as many 'scopes as we can cram into the location will start showing visitors the moon, Mars if visible through trees, and deep-sky "Tourist Traps" as they become available.

Last year we had at least 6 scopes, and lines 10 deep or more pretty much until closing. We expect similar numbers this year if the weather holds. Even if you can't bring a 'scope, please do come. We can use people to greet visitors at a welcome table, to answer questions, and maybe even to do laser-guided tours.

Our second SWSP at the Sneads Ferry center, is on Saturday, April 13<sup>th</sup>. The location itself is pretty good, with better horizons but worse light pollution than CBSP. With a lunar theme, the sky conditions aren't as critical, plus we can still show the bright "Tourist Traps",

It's sure to be less crowded, since this is only it's 3rd year, and Onslow isn't as populous as New Hanover. The demographics at Sneads Ferry will probably skew younger as well. Jon will be doing the solar system model again, although we may not be able to do much beyond Jupiter.

If you can't make CBSP on Friday but still want to help out at the SWSP, please come up to Sneads Ferry. Or, if you're a glutton like Jon is, come to both. The 2019 SWSP (at both locations) will be a great opportunity to interact with the public, and for CFAS to become a better known and utilized community resource.

CBSP:

[https://www.capefearmuseum.com/programs/starparty/Sneads Ferry/](https://www.capefearmuseum.com/programs/starparty/SneadsFerry/)  
<https://www.ncsciencefestival.org/events/statewide-star-party-onslow-county-museum>

## Events for the Month of April.

April

02: Mercury 1/2 deg. N of Neptune (morning)

03: Moon, Mercury, Neptune within 3.5 deg. circle (morning)

05 New Moon

**06: \* Public Event, Cabin Lake State Park \***

11: Mercury at greatest wester elongation (morning)

12: 1st quarter moon

**12: \* State Wide Star Party, Carolina Beach State Park \***

**(this is the only public astronomy event at CBSP in April)**

**13: \* State Wide Star Party, Onslow Environmental Education Center \***

**14: CFAS Monthly Meeting, April**

15: Moon 2.5 deg. N of Regulus (evening)

19: Full Moon

22: Lyrid Meteors (waning gibbous moon)

23: Pi Puppis Meteors (waning gibbous moon)

**25: \* Wizard School at Cape Fear Museum, 6 pm to 9 pm \***

25: Moon 1/2 deg. SE of Saturn (morning)

26: Last Quarter Moon

Notes:

Sky & Telescope has this to say about Mercury and Venus: "unfortunately, they are quite low in the east-southeast for mid-northern latitudes. Mercury, specifically, is never higher than 5° at civil twilight." But have a look anyway, as we are a little south of mid-northern. Please let me know if you see Mercury or not.

Here are some planetary data for the morning of April 15:

<u>Planet</u>	<u>AZ</u>	<u>ALT</u>	<u>Dia (arc-sec)</u>
	5 A.M.		
Jupiter	176	33	41.65
Saturn	147	27	16.75
			39.02 Rings
	6 A.M.		
Venus	99	6.4	12.27
Mercury	96	3.4	7.29

This only 44 minutes before sunrise and therefore "impossible".



### **Yer A Wizard, Harry!**

Summary: Wizard themed science night for age 18+ food and drink available.

Many who read Harry Potter and the Philosopher's Stone (or "Sorcerer's Stone" if you read the Americanized version) will remember Hagrid informing Harry "Yer a Wizard!". The Cape Fear Museum (CFM) wants to make wizards of us all. If you're in Cape Fear Astro, you can do it for free in exchange for some public outreach astronomy.

CFM is hosting "Wizard Night" on Thursday, April 25th, from 6 pm to 9 pm. It's aimed at those 18 and over, promises a night of wands, potions, and other wizardy things, backed up by Science, and CFM are relying on us to staff the Astronomy Tower.

Since it's on the grounds of the museum, sky conditions aren't going to be the greatest, no matter the weather. And, 6 is well before dark, so if anyone can bring a solar scope, that may be the best observing during the whole event. I plan to be there with the Sky Scanner 100 to do any "Tourist Trap" which might be visible under the conditions. Unfortunately, it's last-quarter moon, so that won't be an option. Still, for a lot of people, just looking through a scope at anything may be a first.

Since it's a wizard themed night, we can explain why "Mars isn't bright tonight". I also plan to bring a magic wand (green laser pointer) to cast "lumos directum" (point at stuff in the sky). I'll be ready to explain the alchemy and arithmancy required to construct a modern telescope. If anyone can bring a photographic flash, we can cast "lumos maximus bombardus" (flash in the eyepiece to generate a column of light).

CFM says Wizard dress is encouraged, but not required. I may have access to a pointy hat, but i'm fresh out of robes. Other wizardly worlds, such as Earthsea, Diskworld, Dresden Files, Enchanted Forest, or even Oz, will be fine as well. If there are enough of us to take turns casting the spells, we can visit the other stations.

CFM's event page is here:

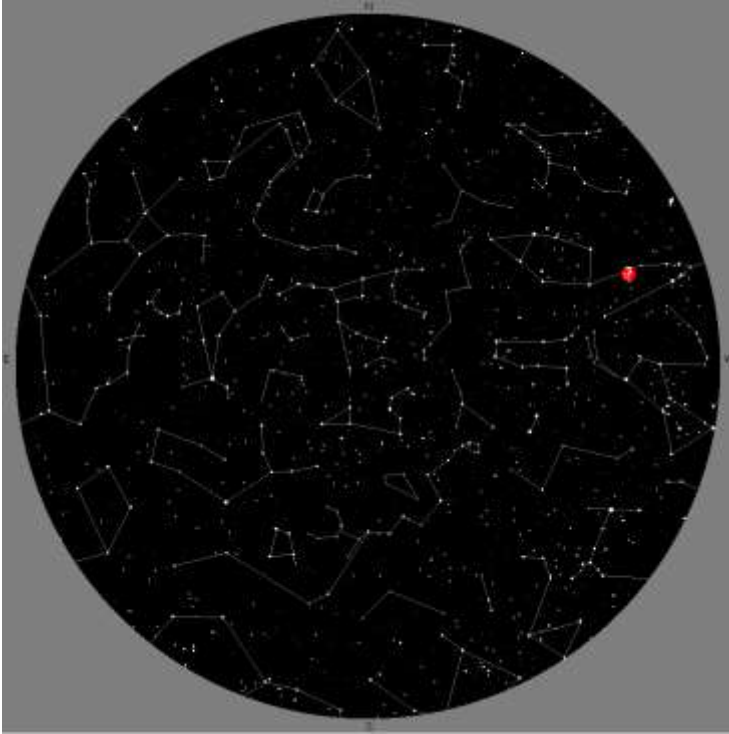
<https://www.capefearmuseum.com/programs/museum-after-dark-wizard-school/>

Hope to see you there.

Auferte nubibus (or so the wizard of Google tells me).

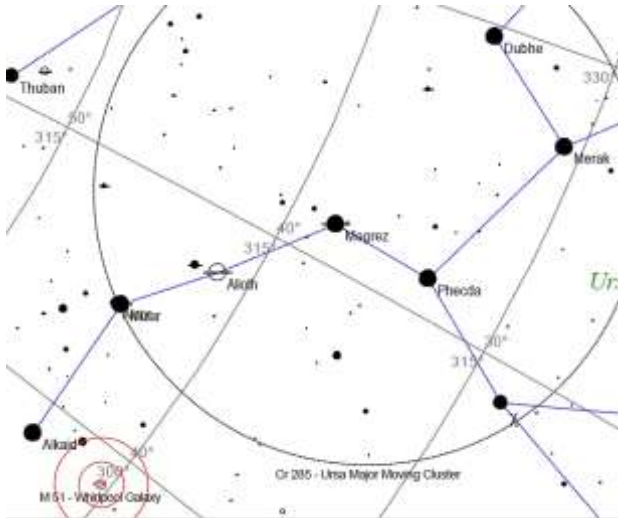
-Jon

## April Cape Fear Skies



Mid-April at 10 PM EDT

Smack-dab in the middle of the CFAS logo is M51 – The Whirlpool Galaxy and, if you are someplace dark on a clear sky night, it's the start of the time of year to try to observe it. Or image it. As shown below, it's off the last star in the handle of the Big Dipper.



Also known as NGC 5194, it is located at 13 29 hrs, +47 degrees. Its apparent size is 7.8'x11' and is of visual magnitude 8.4.

I have found that really good skies are needed for me to glimpse the spiral arms in an 18-20 inch scope. Imaging requires precise polar alignment and focus with about 1000mm focal length on a DSLR and 2-3 minute exposures or longer. My 4" f5.4 scope leaves much to be desired.

## The Crow

During the month of April try to searching around the constellation Corvus. Look below the star Spica and slightly to the West. It will rise well after sunset and is best around midnight, look to the South. Passing due south around midnight try for NGC 5139, otherwise known as Omega Centauri. While very low on the horizon, a good view is worth any effort to catch a glimpse of this awesome globular cluster. Also try for M104, the Sombrero Galaxy. On April 15th the Whirlpool Galaxy, M51, will be well placed off the handle of the Big Dipper. Both galaxies are a good challenges for the new and seasoned viewer or imager.

## Seeing Omega Centauri

Omega Centauri – the Milky Way galaxy's largest and most luminous globular star cluster – is far to the south on the sky's dome. It's visible from the southern half of the United States or south of 40 degrees north latitude or Denver, Colorado. While visible to astronomers in Wilmington, I have not been able to achieve a good image of it yet due to our light dome. Our Canadian friends hasten to remind us that they can spot Omega Centauri from as far north as Point Pelee in Canada (42 degrees latitude). When seeing conditions are just right, they can catch the Omega Centauri star cluster skimming along the surface of Lake Erie, so they say.

Above articles by Billy Kidney

## Classified Ads

Televue 12mm Nagler Type 2 \$100

Televue 20mm Nagler Type 2 \$140

These prices are well below Astromart.

I'll just bring them to the meeting if anyone is interested. --Terry Herrin

*Karl sez: I looked up Cloudy Nights prices and found \$125 to \$200 for the 12mm and \$225 to \$245 for the 20mm!*

I have a Celestron C-11 XLT for sale at \$1000

**Billy Kidney, 910-471-9520**

## Moon Minute

### Apollo 11 and the Moon

Being the 50<sup>th</sup> anniversary, here are some questions an intermediate school student might be asked:

- ★ How far away is the Moon?
- ★ What are the names of the 3 astronauts?
- ★ Given an image of the Moon, where did they land?
- ★ What were the names of the lander and the capsule?
- ★ How long does a radio signal from the Moon take to reach Earth?

Of course, you can come up with your own.

Did you remember that the first stage center engine was shut down about 26 sec before the outboard engines to limit acceleration loadings as the fuel load lightened? I had forgotten that fact.



50 years ago this month, NASA was readying Apollo 10 for its May 18<sup>th</sup> launch.

## DST is not a new drug

by Billy Kidney

Now that we have set our clocks back an hour and we get to enjoy a slow start to our day all over again.

It didn't used to be this way. Back in 2007 daylight savings time started later and ended earlier. The sun was in a different position in the sky so the one-hour shift wasn't so bad. There were changes throughout the last century in America. Some states opt out of daylight time while others observed it. Once upon a time, the switch occurred the night before Easter. That resulted in people oversleeping for church services and reducing attendance. Protests were launched against daylight time as being against "God's time". Even with the changes to Daylight Savings Times, the day after the clocks change attendance is still low at service in churches.

Time used to be measured locally. People would set a sundial to know when local noon was and base all time off of that one reference. The railroad industry was the first to propose 24 time zones. They needed to make schedules and could not base arrival times on local solar noon. It is tough enough on today's traveler to be off an hour or more. Even more complicated if you are off by minutes as well as hours.

DST has some problems. This will make travel scheduling confusing. The benefits are dubious claims of energy savings and increased leisure time with daylight. Fears of crop failure from the additional hour of sunlight have proven unwarranted.

Our hobby means we are usually waiting on the sunset and darkness to arrive. Many of us forget to view the planets in the mean time. We are busy setting up our devices that must be programmed with the correct time in order to work. Go-to telescope mounts count on having the right time for calibration. When it is wrong, it won't find the objects we want to see. It is a good thing we are resourceful and can figure a way to make these tools work. The night is just as long, and the sun shines the same amount of hours no matter what our political leaders vote. We just have to adjust our sleep schedules to start later or rise earlier. April temp should be warmer as March's winter leaves us. This will make for very pleasant viewing and the skies will become steadier for our imagers.

## Dwarf Planets

First: Dwarf vs Minor Planet - Minor planets can be dwarf planets, asteroids, trojans, centaurs, Kuiper belt objects, and other trans-Neptunian objects. For a good starter site on the Solar System, try this:

<https://solarsystem.nasa.gov/solar-system/our-solar-system/overview/>

According to the International Astronomical Union, which sets definitions for planetary science, a dwarf planet is a celestial body that -orbits the sun, has enough mass to assume a nearly round shape, has not cleared the neighborhood around its orbit and is not a moon.

There are 5 known dwarf planets.

Name	Region of the Solar System	Orbital radius (AU)	Orbital period (years)	Inclination to ecliptic	Orbital eccentricity	Diameter (km)	Mass relative to the Moon	Density (g/cm <sup>3</sup> )	Surface gravity (m/s <sup>2</sup> )	Moons	Surface temp. (K)
Ceres	Asteroid belt	2.77	4.60	10.59°	0.079	946	1.3%	2.17	0.29	0	167
Pluto	Kuiper belt	39.48	248.09	17.14°	0.249	2380	17.8%	1.87	0.58	5	44
Haumea	Kuiper belt	43.13	283.28	28.22°	0.195	?	5.5%	?	0.44	2	32±3
Makemake	Kuiper belt	45.79	309.9	28.96°	0.159	1430	?	> 1.4		1	≈ 30
Eris	Scattered disc	67.67	557	44.19°	0.442	2326	22.7%	2.5	≈ 0.8	1	≈ 42

Ceres and Vesta were explored by the Dawn spacecraft. Pluto and 2014 MU69 (Ultima Thule) were explored by the New Horizons spacecraft.



### CFAS Correspondence:

Please contact the society at: CFAS, P.O. Box 7685, Wilmington, NC 28406

Members are welcome and encouraged to submit articles or other input for "CAPE FEAR SKIES". Submit any and all interesting items to Karl Adlon, Editor (email [kmja79@yahoo.com](mailto:kmja79@yahoo.com)).

### CFAS Officers:

#### Officers

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### Contact Us:

You can contact CFAS at [info@capefearastro.org](mailto:info@capefearastro.org)

Our website is <http://www.capefearastro.org/>

